



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,951	03/22/2004	Blake Edward Ratcliffe	RM.MDC	2850
7590 08/21/2006				
Benita J. Rohm ROHM & MONSANTO, P.L.C. 660 Woodward Ave., Suite 1525 Detroit, MI 48226			EXAMINER AFTERGUT, JEFF H	
			ART UNIT 1733	PAPER NUMBER

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/806,951

Applicant(s)

RATCLIFFE, BLAKE EDWARD

Examiner

Jeff H. Aftergut

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.K. 1,104,669 in view of German Patent 3,432,681 further taken with "My Laser Cutting Experiences" (from website <http://www.inlay.com/cnc/laser/index.html>).

U.K. '669 taught a process of marquetry which included the steps of cutting a plurality of veneers with identical cut lines therein. Following the cutting step, the reference taught that one skilled in the art would have interchanged the cut pieces from the various colored pieces of wood in order to form an inlaid decorative veneer assembly. The reference taught that one skilled in the art would have attached the plural panel to a substrate in order to form the decorative panel. The reference failed to teach that those skilled in the art would have incorporated a laser step in the cutting operation (the reference performed the cutting with a die press arrangement). The reference additionally failed to teach that the graphic data was disposed in a computer to control the cutting operation of the veneers.

The reference to German Patent '681 suggested that those skilled in the art would have machined a veneer in the formation of an inlaid assembly in the craft of marquetry by laser cutting the veneers. The reference expressly stated (see the abstract of the disclosure) that the use of the laser cutting arrangement would have

Art Unit: 1733

eliminated the large amounts of labor involved in the marquetry operation and greatly reduced the time to manufacture the inlaid assembly. By doing the same, one skilled in the art would have understood that there would have been greater productivity in the process of making the inlaid assemblies. The reference to German Patent '681 did not expressly state that the machining operation via the laser was computer controlled.

However, as expressed by "My Laser Cutting Experience", one practicing the art of laser cutting was well aware of the use of a computer to facilitate the laser cutting operation wherein one employed a drawing program like Corel or AutoCAD in order to create a graphical representation of the desired inlay assembly followed by the use of the computer to control the laser in the cutting operation. As it would have improved the productivity of the operation of making the inlaid, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques "My Laser Cutting Experience" and German Patent '681 in order to improve the efficiency of the operation of making an inlaid panel in accordance with U.K. '669.

With respect to claim 24, note that one skilled in the art of veneers would have understood that the various veneers would have been finished prior to the cutting operation as the reference to U.K. '669 merely cut the veneers and assembled the various colored veneers together. To provide a desired color (dye) to the veneer prior to the cutting operation would have been obvious as it was desirable to provide various colored pieces to be assembled together and the dying of veneers is taken as conventional in the art. Regarding claim 25, note that the references to "My Laser Cutting Experience" suggested that one skilled in the art would have incorporated a

Art Unit: 1733

raster laser operation in the cutting of the same and one skilled in the art would have understood that the use of the laser would have removed material via etching.

Regarding claim 26, note that the references suggested that the veneers would have been inlaid one within the other. Regarding claim 27 note that "My Laser Cutting Experience" suggested that a CAD system would have been used in the operation.

3. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russian Federation (RU) Patent Abstract 211127 (available from Derwent) or German Patent 3,432,681 in view of either one of Shilling or Sorko-Ram further taken with Matheson et al optionally further in view of Shaffer or "My Laser Cutting Experiences" (from website <http://www.inlay.com/cnc/laser/index.html> dated February 15, 2001).

RU '127 suggested that it was known at the time the invention was made to form an inlay by laser cutting a sheet of material to form an inlay component and a panel substrate receptive to the inlay component and inserting the inlay component formed from the cutting operation into the opening of the main panel. The reference stated that the base layer and the inlay shape can be different thicknesses and that they could be fastened to a backing layer. The reference to RU '127 did not state that the fastening would have included bonding the inlay component and the base component to the substrate. The reference to German Patent '681 suggested that it was known to laser cut a veneer and then inlay additional components which were laser cut in the openings of the first veneer in order to provide an appropriate design. The veneers were attached to a substrate in the operation. There is no scanning of the image one desired to

Art Unit: 1733

reproduce nor is there any indication that a computer would have been used in the laser cutting operation.

Schilling et al suggested that in an inlaying operation wherein laser cutting was performed to cut the inlay piece as well as the base followed by insertion of the inlay in the opening in the base, it was known at the time the invention was made to utilize a computer to control the cutting operation. Applicant is more specifically referred to column 6, line 37-column 7, line 57. The reference suggested that the desired design would have been stored on a computer and that the cutting operation would have been regulated as a function of the stored data by the computer. The reference additionally suggested that the cutting would have been performed with a laser cutting mechanism. Likewise, the reference to Sorko-Ram suggested that those skilled in the art would have utilized a numerically controlled laser cutter to cut a base material as well as an inlay material with a laser cutter followed by insertion of the inlay into the base and bonding of the inlay and base to a backing material. The applicant is more specifically referred to column 1, lines 25-46 and column 1, lines 58-39. The references were silent as to the scanning of an image into the computer in order to provide the desired design. It should be noted that Sorko-Ram suggested that one skilled in the art would have translated the information regarding the desired pattern into a set of instructions for operating the numerically controlled laser cutter (where clearly such translation involved feeding the information to a computer for translation of the information into code useful for the inlaying operation).

Matheson et al suggested in the art of inlaying that one skilled in the art would have scanned an original art into the computer and utilized this scanned data to control the laser cutting operation in the manufacture of an inlaid wood panel. The reference additionally suggested that the fastening of the components together would have entailed the bonding of the components together. It should be also noted that the references to Schilling or Sorko-Ram suggested that the inlay and the substrate material would have been joined together. Additionally, note that Matheson et al suggested that the inlaying operation would have been suitable for wood materials in the manufacture of panels while the reference to Schilling is concerned with carpet inlaying, the reference to Sorko-Ram is concerned with plastics and RU '127 is concerned with plastic or metal materials. It should additionally be noted that Matheson additionally clearly recited that there was a cleaning step which was performed wherein the pixels (machine code) on the edges were smoothed utilizing a software program. It should be noted that this clean up could additionally include alterations, see column 5, lines 26-27, for example. The applicant is advised that the processing performed by applicant which requires the adjusting of the machine code and/or readjusting of the machine code was nothing more than the clean up of the image to ensure that the pieces would have matched in the inlay without gapping therein, see paragraph [0046] of the disclosure. Note that the reference clearly taught that the adjusted or readjusted image was what was used by the system in the laser cutting wherein the image was printed and read by an optical scanner which was connected to the laser cutting device. It would have been obvious to one of ordinary skill in the art at the time the invention

Art Unit: 1733

was made that the claimed operation could be practiced on any of the above noted materials to obtain the desired decorative effects on wished. It would have been obvious to one of ordinary skill in the art at the time the invention was made to scan an original artwork for inlaying the same wherein the information was scanned into a computer and then used in a computer aided design operation to manufacture an inlay via laser cutting as suggested by Matheson et al wherein the laser cutting operation would have been performed to completely cut out the inlay as well as the base so that the inlay was able to be disposed in the base as suggested by either one of Russian Federation abstract 2111127 or German Patent 3,432,681 and where it was known to utilize a computer to control the cutting operation during inlaying to completely cut through the materials as suggested by Schilling or Sorko-Ram. It being noted that adjustment or readjustment of the image forming data was taken as conventional in the art of computer aided design previously which has never been challenged by applicant.

With respect to claim 2, note that Matheson suggested that inlaying to produce a table top was known in the prior art and one skilled in the art would have understood that such would have entailed incorporation of the panel into a piece of furniture. Regarding claim 3, the references taught the step of readjusting the machine code therein as discussed by Matheson. Regarding claim 4, note that the reference to RU '127 suggested that those skilled in the art would have bonded the materials to a backing (fastened) and that bonding was a well known means for fastening as suggested by Schilling and Matheson. Note additionally that German Patent '681 suggested this type of bonding operation on a backing. Regarding claim 5, note that the



Art Unit: 1733

references suggested the formation of an inlaid panel and that it is taken as well known and conventional to apply a decorative edging to the same in order to finish the assembly. Regarding claims 6 and 7, one skilled in the art at the time the invention was made would have understood that in the manufacture of a piece of furniture a structural support would have been attached to the decorative inlay and such is taken as conventional in the art as is the application of additional decorative elements to the inlaid panel (depending upon the desired design one wished to attain one skilled in the art would have known to provide an additional decorative piece to the inlay panel).

Regarding claim 8, note that Matheson suggested the scanning of the master.

Regarding claims 9-15, 17 and 18, applicant is advised that Matheson suggested the proposed arrangement for the use of the computer whereby computer aided design was used to obtain coded information of an original and the coded information was then used to control the cutting operation in the laser cutting process. The particulars of the computer processing are taken as conventional in the art. Regarding claims 16, 19 and 20, the prior art to RU '127 suggested that one would have fastened the cut pieces to a backing. Likewise the references to German Patent 3,432,681 suggested bonding the material to a backing. The use of adhesive to secure the inlay components together was known as evidenced by Shilling, Sorko-Ram and Matheson. Regarding claims 21 and 22, the staining of a wood panel as well as the sealing of the same is taken as conventional in the art of finished a decorative panel and one skilled in the art of inlaying would have been expected to utilize the same.

While it is believed that the prior art appears to suggest all of the features employed in the laser cutter including the numeric control of the same with the identified software useful for controlling the transfer of the information from a design which is printable to one which is useful for numerically controlling a laser, the references to Shaffer or "My Laser Cutting Experiences" both taught that a laser printer and/or cutter would have known how to read machine code from a computer in order to facilitate the operation of the laser in the manner desired. More specifically, Shaffer at column 2, line 60-column 3, line 52 suggested that the information of the image was converted from CAD code to code usable by the laser system (numeric code for the system for example). The reference to "My Laser Cutting Experiences" again expressed that a laser cutting system was capable of reading code directly from a drawing program like AutoCAD or Corel. As such, the laser cutter would have been capable of reading the code directly in Matheson (without the need for the optical scanner). It would have been obvious to one of ordinary skill in the art at the time the invention was made to scan an original artwork for inlaying the same wherein the information was scanned into a computer and then used in a computer aided design operation to manufacture an inlay via laser cutting as suggested by Matheson et al wherein the laser cutter was capable of reading the image information and subsequently performing the laser cutting function directly without the use of an optical scanner as suggested by either one of Shaffer or "My Laser Cutting Experiences" wherein the laser cutting operation would have been performed to completely cut out the inlay as well as the base so that the inlay was able to be disposed in the base as suggested by either one of Russian Federation abstract

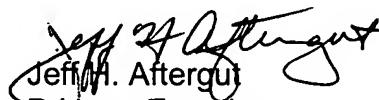
2111127 or German Patent 3,432,681 and where it was known to utilize a computer to control the cutting operation during inlaying to completely cut through the materials as suggested by Schilling or Sorko-Ram.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jeff H. Aftergut  
Primary Examiner  
Art Unit 1733

Application/Control Number: 10/806,951

Page 11

Art Unit: 1733

August 16, 2006